

# Notice of Allowability

Application No.

09/926,099

Examiner

Alicia Chevalier

Applicant(s)

SHIZUNO ET AL.

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/8/04.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 31 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 3/24/04 + 12/9/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-5 and 9-11 are directed to an allowable product. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claims 6-8, directed to the process of making or using the patentable product, previously withdrawn from consideration as a result of a restriction requirement, are now subject to being rejoined. Claims 6-8 are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Since all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the restriction requirement made in the Office action mailed on February 6, 2003 is hereby withdrawn.

### REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

The base claims are: 1, 2, and 11.

The closest prior art found can be summarized as follows:

Cotton et al. (U.S. Patent No. 5,223,319) discloses a bulky sheet (*non-woven wiper, col. 3, lines 25-26*) comprising a fiber web (*nonwoven web of fibers, col. 3, line 27*). The bulky sheet having a number of projections and depressions (*raised surface areas, col. 3, line 29 and figure 1*) comprising the fiber web. The projections have a corresponding depression on an opposite side of the bulky sheet and have a distance between projections in a width direction and a longitudinal direction (*figure 1*). The projections and depression retain shape by themselves, since Cotton does not disclose anything aiding the projections and depressions to help retain their

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shape. Cotton further discloses that the bulky sheet has a distribution of the constituting fibers in the projections toward the depressions being at a very low level, since the reference discloses that the top of the projection, which is the bottom of the depression, comprises an aperture (*col. 3, line 29*). The aperture constitutes a fiber distribution of zero, which is deemed to be a very low level.

Cotton fails to disclose an entangled fiber aggregate formed by water needling of a fiber web or that the entangled fiber aggregate has an entanglement coefficient of 0.05 to 2 N\*m/g.

Horrocks (Handbook of Technical Textiles) discloses entangled fiber aggregates used in wipes produced by water needling (*page 150, paragraph 5*), e.g. hydroentangling, of a fiber web are guaranteed lint free (*page 151, paragraph 3*).

Horrocks fails to disclose the bulky sheet structure as claimed in claims 1, 2, and 11 or that the entangled fiber aggregate has an entanglement coefficient of 0.05 to 2 N\*m/g.

Shizuno et al. (U.S. Patent No. 5,525,397) discloses a discloses a nonwoven cleaning sheet, i.e. wipe, for the purpose of collecting various kinds of dust (*col. 1, lines 11-14*). The sheet has an entanglement coefficient, which is expressed by the initial gradient of the stress-strain curve measured with respect to the direction perpendicular to the fiber orientation (*col. 4, lines 52-55*), falls within the range of 10 to 500 (*col. 5, lines 16-17*). Furthermore, Shizuno discloses that if the entanglement coefficient is smaller than 10, the fibers will not be sufficiently entangled (*col. 5, lines 7-15*).

Shizuno fails to disclose the bulky sheet structure as claimed in claims 1, 2, and 11 or that the entangled fiber aggregate has an entanglement coefficient of 0.05 to 2 N\*m/g.

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In sum, the prior art fails to teach or suggest, only or in combination, the recited bulky sheet as claimed in claims 1, 2, and 11 with an entangled fiber aggregate having an entanglement coefficient of 0.05 to 2 N\*m/g . Note: the coefficient of entanglement is a measure representing the degree of fiber entanglement which is represented by the initial slope of the stress-strain curve measured in the direction perpendicular to the fiber orientation direction (*specification page 13, lines 6-13*).

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

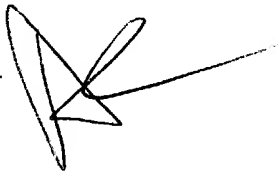
#### ***Conclusion***

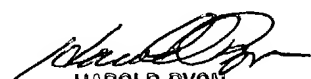
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11/5/04



  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

11/12/04